

**Notice of Allowability**

Application No.

10/823,495

Examiner

Jason M. Greene

Applicant(s)

INOUE ET AL.

Art Unit

1724

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to the papers filed 06 April 2004.
2. ☒ The allowed claim(s) is/are 1-9.
3. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some\* c) ☐ None of the:
- ☒ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
- (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
- 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
- (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.
- Identifying Indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☒ Information Disclosure Statements (PTO-1449 or PTO/SB/08), Paper No./Mail Date 4/6/04; 7/16/04
- ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Interview Summary (PTO-413), Paper No./Mail Date \_\_\_\_\_
- ☒ Examiner's Amendment/Comment
- ☒ Examiner's Statement of Reasons for Allowance
- ☐ Other \_\_\_\_\_

**DETAILED ACTION**

***Priority***

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

***Allowable Subject Matter***

2. Claims 1-9 are allowed.
3. The following is an examiner's statement of reasons for allowance:

Tashiro et al. (US 6,622,480 B2) discloses an engine exhaust gas purification device comprising a filter (4) which traps particulate matter contained in the exhaust gas from an engine, a differential pressure detection sensor (51,52) which detects a differential pressure of the filter, a sensor which detects an engine running state (torque Q and engine speed Ne), and a microcomputer (ECU 5) programmed to compute an oil consumption amount based on the detected engine running state (Q,Ne) and compute an ash amount of the filter based on the oil consumption in Figs. 1-4, col. 4, lines 9-27 and col. 9, line 63 to col. 13, line 15.

European Patent Application EP 1 229 223 A1 discloses an engine exhaust gas purification device comprising a filter (1) which traps particulate matter contained in the exhaust gas from an engine, a differential pressure detection sensor (3) which detects a differential pressure of the filter, a sensor which detects an engine running state (running distance), and a microcomputer (30) programmed to compute an ash amount based on the detected engine running state (running distance) in Figs. 1, 2 and 5 and col. 2, line 56 to col. 5, line 5.

Tallec et al. (US 2001/0010152 A1) discloses an engine exhaust gas purification device comprising a filter (7) which traps particulate matter contained in the exhaust gas from an engine, a differential pressure detection sensor (20) which detects a differential pressure of the filter, a sensor which detects an engine running state (torque), and a microcomputer (18) programmed to compute an ash amount in Fig. 1 and paragraphs [0016] to [0038].

Japanese Patent Application JP 62-35009 discloses an engine exhaust gas purification device comprising a filter (13) which traps particulate matter contained in the exhaust gas from an engine, a differential pressure detection sensor (23) which detects a differential pressure of the filter, a sensor which detects an engine running state (running distance), and a microcomputer (22) programmed to compute an ash amount based on the detected engine running state (running distance) and pressure difference in Figs. 1-3 and the English language abstract.

European Patent Application EP 1 281 843 A2 discloses an engine exhaust gas purification device comprising a filter (10) which traps particulate matter contained in the exhaust gas from an engine, a differential pressure detection sensor (14,15) which detects a differential pressure of the filter, a sensor which detects an engine running state (length of use), and a microcomputer (12) programmed to compute an ash amount based on the detected engine running state (length of use) in Fig. 1 and the English language abstract.

With regard to claims 1-7, the prior art made of record does not teach or fairly suggest the engine exhaust purification device of claim 1 wherein the microcomputer is programmed to compute an estimated ash amount of the filter based on the detected differential pressure, compute an engine oil consumption amount based on the detected engine running state, compute an ash density from the oil consumption amount and estimated ash amount, and compute an ash amount of the filter based on the oil consumption amount and the ash density.

With regard to claim 8, the prior art made of record does not teach or fairly suggest the engine exhaust gas purification device comprising means for computing an estimated ash amount of the filter based on the detected differential pressure, means for computing an engine oil consumption amount based on the detected engine running state, means for computing an ash density from the oil consumption amount and

estimated ash amount, and means for computing an ash amount of the filter based on the oil consumption amount and the ash density.

With regard to claim 9, the prior art made of record does not teach or fairly suggest the computing method comprising the steps of computing an estimated ash amount of the filter based on the detected differential pressure, computing an engine oil consumption amount based on the detected engine running state, computing an ash density from the oil consumption amount and estimated ash amount, and computing an ash amount of the filter based on the oil consumption amount and the ash density.

4. Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

### ***Conclusion***

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The Inoue et al. (US 6,928,809 B2) and Wirth et al. (US 2006/0005534 A1) references disclose similar engine exhaust gas purification devices.


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6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jason M. Greene whose telephone number is (571) 272-1157. The examiner can normally be reached on Monday - Friday (9:00 AM to 5:30 PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Duane Smith can be reached on (571) 272-1166. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Jason M. Greene  
Primary Examiner  
Art Unit 1724

  
6/17/06

jmg  
June 17, 2006